

Amendments To The Claims

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (currently amended) A method of manufacturing a sensor device comprising a circuit having organic thin films formed on surfaces of microelectrodes forming a two-dimensional array and a transducing element that detects change in electric impedance in connection with an electro-conductive polymer, the polymer absorbing aromatic molecules, the method comprising:

printing a solution of thin film material through an ink-jet nozzle onto the surfaces of the microelectrodes such that organic thin films are formed on the microelectrodes,

wherein the solution comprises an electro-conductive polymer and a solvent,

wherein the ink-jet nozzle has a piezo-electric element, the ink-jet nozzle is a multi-line head nozzle, and the solution has a viscosity of about 3 centipoise or less,

wherein the step of printing the solution of thin film material comprises the steps of:

- (a) deforming the piezo-element by delivering an electric signal to the piezo-element;
- (b) ejecting the solution via the ink-jet nozzle to rest on the microelectrodes, and
- (c) depositing the electro-conductive polymer onto different regions of the two-dimensional array to produce a device specific to a group of chemicals,

wherein the electro-conductive polymer includes at least one of ~~polypyrrole~~, polymethylpyrrole, polythiophene ~~polythiophene~~, polymethylthiophene, and polyphenylene vinylene.

2-6. (cancelled)

7. (previously presented) The method of claim 1, wherein the electrodes and the circuit are formed on a plastic substrate.

8. (previously presented) The method of claim 7, wherein the circuit comprises poly-silicon thin film transistors.

9-26. (cancelled)

27. (cancelled)